FIG. 1. 3339 Feb 24, 1891

Roberson

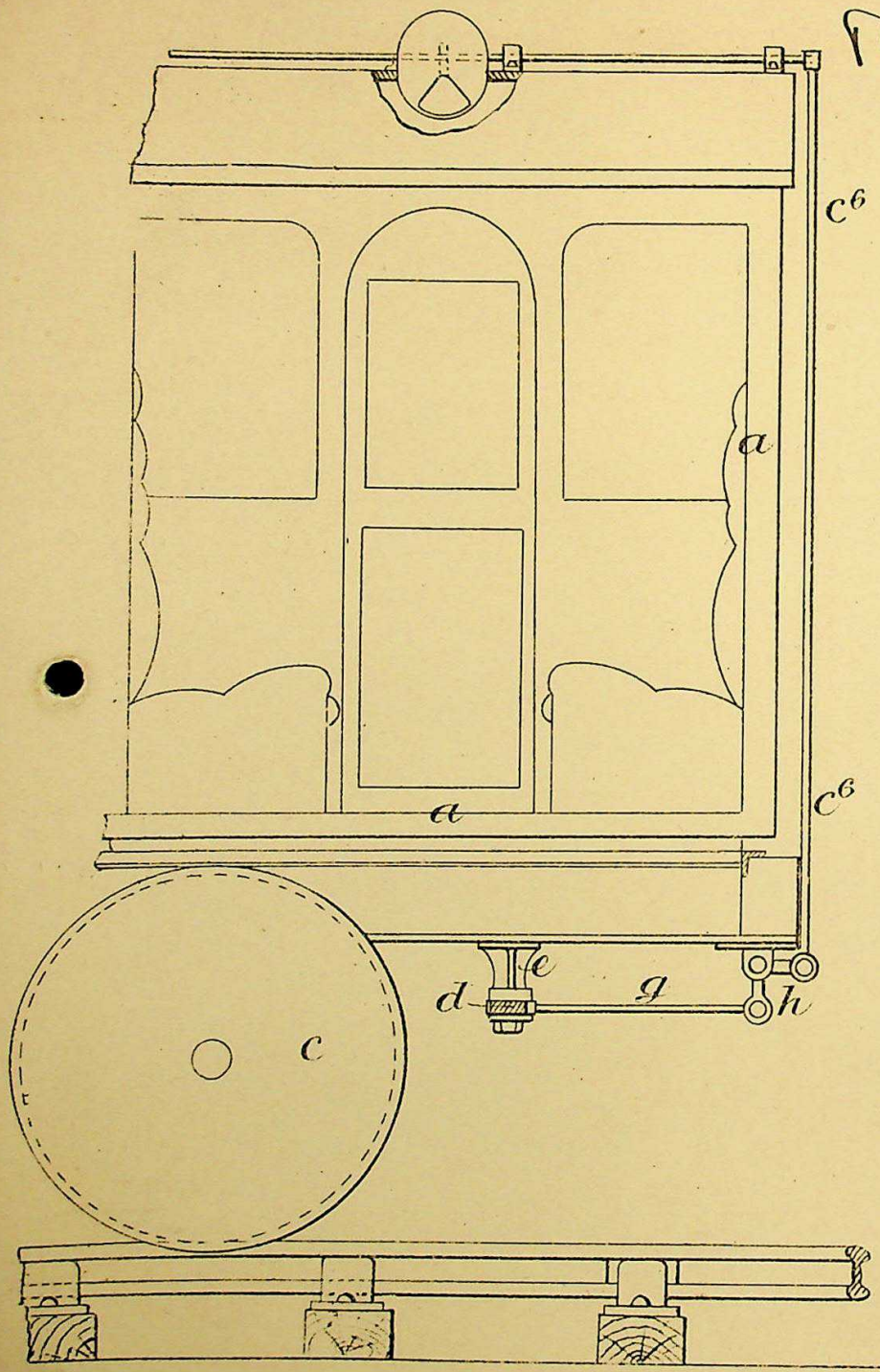
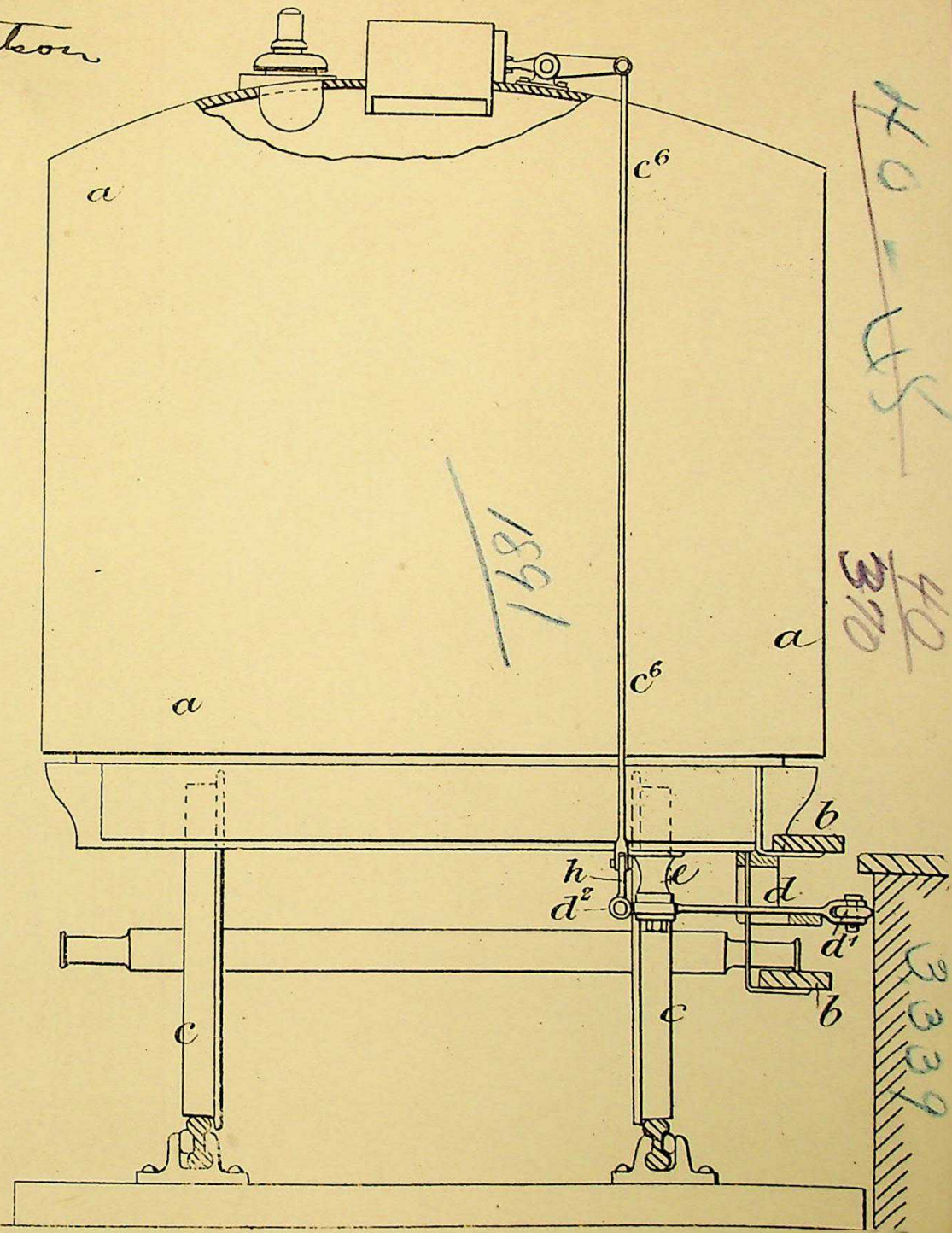


FIG. 2.



. SIGNALS,
tation-indicators.

FIG. 4.

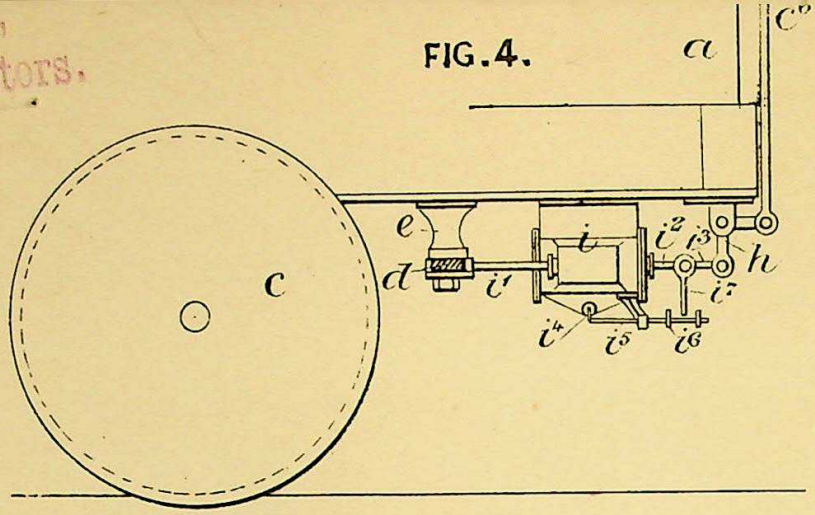


FIG. 3.

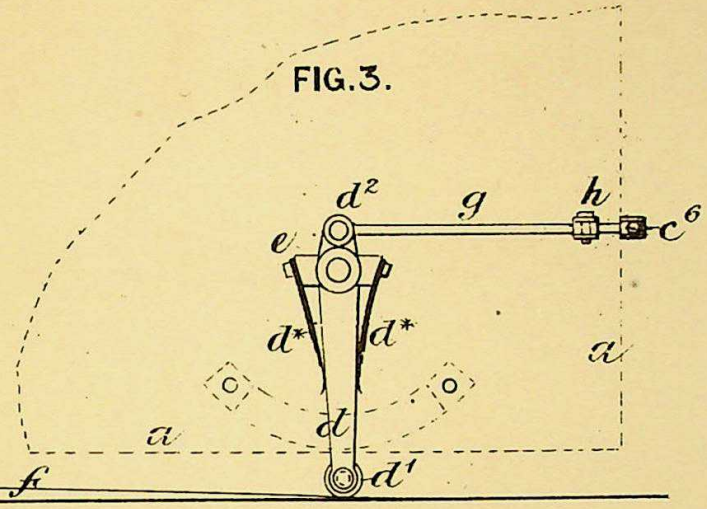


FIG. 5.

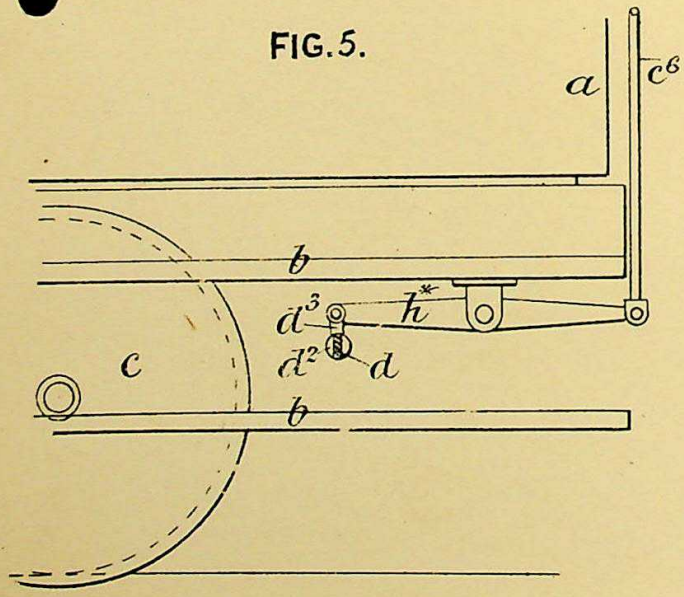


FIG. 6.

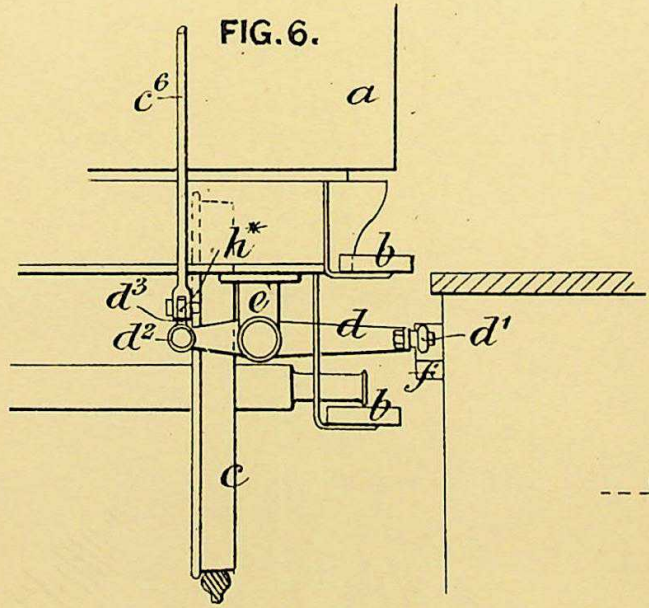


FIG. 7.

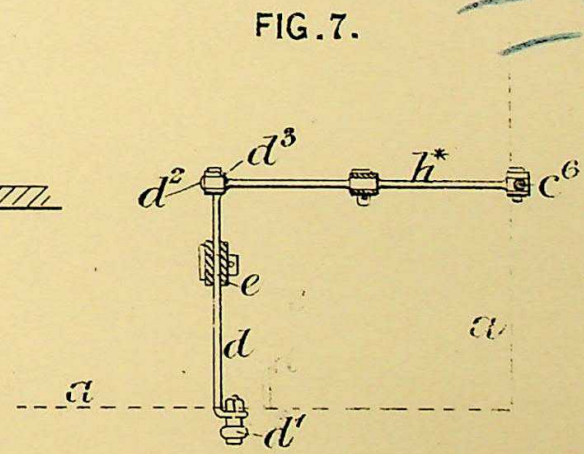
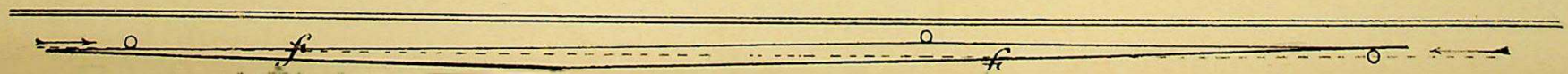


FIG. 8.



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Station-indicators.

N° 3339 A.D. 1891

Date of Application, 24th Feb., 1891
Complete Specification Left, 23rd Dec., 1891—Accepted, 30th Jan., 1892

PROVISIONAL SPECIFICATION.

Improvements in or connected with Means for Announcing the Names of Stations and for Advertising in Railway Carriages.

I, GEORGE WASHINGTON ROBERTSON, of 48 Upper Park Road, Haverstock Hill, in the County of Middlesex, Engineer, do hereby declare the nature of this invention to be as follows :—

The invention has for its object improvements in or connected with means for announcing the names of stations and for advertising in railway carriages.

It has before been proposed to operate such apparatus by means of a fixed cam or incline on the permanent way acting upon a dependent lever connected to a shaft, which by suitable connections has operated the indicating apparatus.

Now according to my present invention I mount a lever at each side of the carriage, preferably placed between the footboards, and I fix a cam, incline or projection to the outgoing ends of the platforms, or to other parts at the side of the permanent way, at such a height and position as to act on such levers as the carriages pass the same. These levers are held normally in a central position by springs and they are employed to act directly on the indicating mechanism, or they may be connected to a small motor placed between them and the indicating mechanism, so as to cause such motor to act upon the indicating mechanism.

The interposed motor may be of any suitable character ; as an example I would state that it may be a compressed air motor, the cylinder of which is connected with the compressed air receiver used for operating the breaks, the valve being operated by the lever actuated by the fixed cam, incline or projection, and the piston rod being connected to the mechanism for operating the indicator. The valve or valves of the motor is or are so arranged as to be operated by the lever on either side of the carriage.

Dated this 24th day of February 1891.

GEO. W. ROBERTSON,

By Harris & Mills,
23, Southampton Buildings, London, W.C., Agents.

COMPLETE SPECIFICATION.

Improvements in or connected with Means for Announcing the Names of Stations and for Advertising in Railway Carriages.

I, GEORGE WASHINGTON ROBERTSON of 48 Upper Park Road, Haverstock Hill, in the County of Middlesex, Engineer, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement :—

The invention has for its object improvements in or connected with means for announcing the names of stations and for advertising in railway carriages.

It has before been proposed to operate such apparatus by means of a fixed cam or incline on the permanent way acting upon a dependent lever connected to a shaft which by suitable connections has operated the indicating apparatus.

Now according to my present invention I mount a lever at each side of the carriage preferably placed between the footboards, and I fix a cam, incline or projection to the outgoing ends of the platforms or to other parts at the side of the permanent way, at such a height and position as to act on such levers as the carriages pass the same. These levers are held normally in a central position by

springs and they are employed to act directly on the indicating mechanism or they may be connected to a small motor placed between them and the indicating mechanism so as to cause such motor to act upon the indicating mechanism.

The interposed motor may be of any suitable character, as an example I would state that it may be a compressed air motor, the cylinder of which is connected with the compressed air receiver used for operating the breaks, the valve being operated by the lever actuated by the fixed cam, incline or projection, and the piston rod being connected to the mechanism for operating the indicator.

The valve or valves of the motor is or are so arranged as to be operated by the lever on either side of the carriage.

And in order that my said invention may be more clearly understood and readily carried into effect I will proceed aided by the accompanying drawings more fully to describe the same.

Description of the Drawings.

Figure 1 represents a side view of part of a railway carriage showing my improvements applied thereto,

Figure 2 is an end view of the same and

Figure 3 is a plan.

Figure 4 is a side view of part of a railway carriage showing a modification in which a small motor is interposed between the prime lever and the annunciating apparatus, and

Figure 5 is a side view, Figure 6 is an end view and Figure 7 is a plan of parts representing another modification in which the prime lever has a vertical motion imparted to it in lieu of a horizontal motion as in Figures 1, 2, 3.

Figure 8 is a front view of the double cam or incline used with this latter modification.

In all the figures like parts are indicated by similar letters of reference.

I will first describe the arrangement represented at Figures 1, 2, 3. *a* represents the carriage body, *b*, *b*, the foot boards and *c*, *c* the running wheels. *d* is a lever mounted on a vertical axis carried by a bracket *e* fixed to the lower framing of the carriage, d^1 is a truck or roller mounted at the outer end of the lever *d* and capable of running against the double cam or incline *f* (see Fig. 3,) fixed to the outgoing end of a station platform or to other suitable support. By this means the lever *d* is capable of being moved in a horizontal plane around its axis by coming into contact with one or other end of the double cam or incline *f*, which latter is formed with an incline rising from each end thereof to its maximum height at the centre, so as to cause the lever *d* to be moved in the one or the other direction according to the direction in which the carriage moves past the cam or incline *f*.

The lever *d* is held normally in a central position and when moved is returned to such position by springs d^* or by other suitable means.

The inner end of the lever *d* is connected by a ball and socket joint d^2 to a link *g* which is pin jointed to one arm of the bell crank lever *h* the other arm of which is pin jointed to the connecting rod c^6 referred to in the Specification of Letters Patent granted to me dated July 17 1890 No. 11170 as giving motion to the station annunciating and advertising apparatus therein described.

By placing the prime lever *d* and the operating cam or incline *f* in the positions herein shown and described, such parts are in more convenient positions and less liable to injury than when placed in the positions shown and described in my said former Specification.

I will now describe the modification represented at Figure 4. In this case I employ a prime lever *d* operated by a double cam or incline *f* as in the arrangement represented at Figures 1, 2, 3 but instead of connecting the inner end of such lever directly with one arm of the bell crank lever *h* I according to the modification now being described interpose a small motor consisting of a double acting engine *i* supplied with steam or compressed air from any convenient source. I connect the inner end of the prime lever *d* with the valve rod i^1 and I connect the piston rod i^2

by link i^3 with one arm of the bell crank lever h the other arm of which is connected with the link c^6 as before described.

Thus on the prime lever d being moved on its axis in either direction it will shift the slide valve and thereby cause the piston to be moved in one or the other direction and consequently give motion to the annunciating apparatus in a corresponding direction. In order that after each action, the piston may be returned to its normally central position I provide the motor with passages from each end of the cylinder communicating with a common outlet governed by a suitable cock i^4 and I connect the arm of such cock with an operating rod i^5 provided with two projections i^6 which are acted upon in the one or the other direction by a stud or projection i^7 on the end of the piston rod i^2. By these means just towards the end of the stroke of the piston in either direction the stud or projection i^7 will operate the cock i^4 and thereby give vent to the steam or compressed air which has just moved the piston, thus enabling the latter to return to its normally central position by springs suitably applied thereto.

I will now describe the modification represented at Figures 5, 6, 7, 8. In this case the lever d is mounted on a horizontal axis and the outer end thereof has a vertical motion imparted to it by a double cam or incline f the form of which is clearly shown at Figure 8. The inner end of the prime lever d is by ball and socket joint d^2 connected to one end of a link d^3 whose other end is pin jointed to the inner end of a lever h^* whose outer end is pin jointed to the link c^6 which operates the station annunciating and advertising apparatus.

Instead of employing a motor of the character above described other description of motor such for instance as an electric motor may be used in which case it would be caused to operate in the one or the other direction by the lever d giving motion to a suitable shunt.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is :—

1. In station annunciating and advertising apparatus the combination therewith of a prime lever d and double incline or cam f arranged and operating substantially as herein shown and described with respect to Figures 1, 2, 3 and 5, 6, 7 & 8.

2. In station annunciating and advertising apparatus the combination of a prime lever, a double incline or cam and an interposed motor between the prime lever and the mechanism for operating the annunciator arranged substantially as herein shown and described.

Dated December 23rd 1891.

G. W. ROBERTSON,
By Harris & Mills,
23, Southampton Buildings, London, Agents.

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